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Model Number: SU20KRTHW

SmartOnline 20kVA On-Line Double-Conversion UPS, N+1, 12U Rack/Tower, 200-240V Hardwire output

Highlights

- 20kVA / 20,000VA / 18,000W on-line double-conversion UPS; 0.9 power factor
- 200/208/220/230/240V 50/60Hz output; Economy mode option
- Hot-swap power and battery modules, N+1 fault tolerance at loads up to 10kVA
- USB, RS232 & EPO ports; support for SNMP/WEB and contact-closure card options
- Front panel LEDs with detailed LCD monitoring and control screen
- Expandable runtime with optional external battery packs
- Hardwire input (3 wire); Hardwire output

Description

Tripp Lite SU20KRTHW 20,000VA / 20kVA / 18,000 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 12U rack/tower configuration. This system delivers complete N+1 redundancy when used at loads up to 10kVA, and non-redundant operation at loads between 10 and 20kVA. Fault-tolerant auto-bypass prevents unexpected service interruptions during UPS overload or internal fault conditions. Included parallel PDU with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. Enhanced availability, fault tolerance and simple hot-swap replacement options make this UPS ideal for advanced networking applications in data centers, computer rooms, network closets and rugged industrial locations.

Package Includes

- Two SU10000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- SUPDMB20KHW PDU with Bypass switch
- 4-post rackmount installation rails
- PowerAlert software and cabling

Features

- Tripp Lite SU20KRTHW 20kVA, 20,000VA / 18,000 watt on-line, double-conversion UPS system in 12U total rack/tower configuration
- Unique configuration offers 20kVA non-redundant operation and automatic N+1 redundancy at load levels of 10kVA and under
- Included Parallel PDU with manual bypass switch enables hot-swap replacement power modules at any supported load level
- Hardwire input and output connections
- Maintains full-time sine wave output within 2% of selectable 200/208/220/230/240V nominal
- Supports 50/60Hz operation for worldwide frequency compatibility
- Expandable runtime with optional external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- Battery independent restart
- Highly efficient economy mode option
- Optional SNMPWEBCARD, RELAYIOCARD and RELAYIOMINI interface modules available (RELAYIOMINI requires removal of USB interface module)
- HID-compliant USB interface
- Includes Free PowerAlert monitoring software; PowerAlert LOCAL, PowerAlert NSA and PowerAlert NMS for monitoring up to 250

SNMP-enabled UPS, PDU and other networking devices

- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (4 required)
- Optional 2-9USTAND supports upright tower placement (2 required)
- Supports Emergency Power Off (EPO) via built-in interface
- Front panel LEDs and LCD readout with scroll controls
- LED / LCD display panel rotates for viewing in rackmount or tower configurations
- External battery packs are field replaceable and hot swappable
- Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)

Specifications

OUTPUT	
Output Volt Amp Capacity (VA)	20000
Output kVA capacity (kVA)	20
Output Watt Capacity (watts)	18000
Output kW capacity	18
Output power factor	0.9
Output Capacity Details	Supports up to 105% load continuously in double conversion mode, 106 to 125% for 1 minute, 126% to 150% for 30 seconds; Loads over 150% trigger immediate bypass mode operation to support loads directly from mains power; Double conversion mode is automatically restored as load levels are reduced to 95% or less
Nominal Output Voltage(s) Supported	200V; 208V; 220V; 230V; 240V
Nominal Voltage details	Voltage selection via front panel LCD interface
Frequency compatibility	50 / 60 Hz; Supports 50 to 60 Hz and 60 to 50 Hz conversion
Frequency compatibility details	Output frequency matches input nominal on startup; Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)
Output voltage regulation (line mode)	+/- 2%
Output voltage regulation (Economy line mode)	+/- 10%
Output voltage regulation (Battery mode)	+/- 2%
Built-in UPS output receptacles	Hardwire
Output AC waveform (AC mode)	Sine wave
Output AC waveform (battery mode)	Pure Sine wave
INPUT	
Rated input current (at maximum load)	112.2A (200V), 108A (208V), 102A (220V), 97.6A (230V), 93.6A (240V)
Nominal Input Voltage(s) Supported	200V AC; 208V AC; 220V AC; 230V AC; 240V AC

UPS input connection type	Hardwire
UPS input connection description	3 wire single phase input (L1, L2, G)
Recommended Electrical Service	120A @ 200V-240V (L, N, PE), or 125A @ 200V, 208V, or 240V (L1, L2, G)
Phase	Single-Phase
BATTERY	
Full load runtime (minutes)	4.3 minutes (18,000 watts)
Half load runtime (minutes)	12.5 minutes (9000 watts)
Expandable battery runtime	Runtime is expandable with external battery packs
External battery pack compatibility	BP240V10RT3U; BP240V557C-1PH; BP240V787C-1PH; BP240V1037C-1PH; BP240V1407C-1PH
Expandable runtime description	For best results, add external batteries in multiples of two so that both included 10kVA power modules have an equal number and type of connected battery packs
DC system voltage (VDC)	240
Battery recharge rate (included batteries)	Less than 8 hours from 10% to 90%
Battery replacement description	Hot-swappable, user replaceable external battery packs
VOLTAGE REGULATION	
Voltage regulation description	2% output voltage regulation in standard online, double-conversion mode
Overvoltage correction	Corrects overvoltages up to 300V
Undervoltage correction	Corrects undervoltages as low as 100V
LEDS ALARMS & SWITCHES	
LED Indicators	6 LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status; LCD screen offers additional information and control options
Front panel LCD display	Selectable LCD display with scroll and selection buttons enables UPS control and detailed monitoring options; LED/LCD panel rotates for viewing in rack/tower formats; LCD Display supports ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH and PORTUGUESE (see manual)
Alarms	Unique audible alarms for all major UPS, environmental and power conditions (see manual)
Alarm cancel operation	Alarm cancel switch
Switches	2 Switches control off/on power status and alarm-cancel/self-test operation; 2 additional switches support set and execute scrolling LCD functions; bundled PDU includes bypass switch to enable hot-swap UPS power module replacement
SURGE / NOISE SUPPRESSION	
UPS AC suppression response time	Instantaneous

EMI / RFI AC noise suppression	Yes
PHYSICAL	
Included mounting accessory description	4 sets of adjustable 4 post rack rails included (one for each included 3U module)
Installation form factors supported with optional accessories	2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)
Optional mounting accessory notes	Qty 4 2POSTRMKITHD required; Qty 2 2-9USTAND required
Primary form factor	Rackmount
UPS / Power Module dimensions in primary form factor (height x width x depth / inches)	5.14 x 17.5 x 25.82
UPS / Power Module dimensions in primary form factor (height x width x depth / cm)	13.1 x 44.5 x 65.6
Installed whole system maximum rack depth (inches)	32.5
Installed whole system maximum rack depth (cm)	82.6
Rack Height	12U
Secondary form factor	Tower
UPS / Power Module weight (lbs)	44.1
UPS / Power Module weight (kg)	20
UPS dimensions details	Includes 2 SU1000RT3UPM UPS/Power modules and 2 BP240V10RT3U Battery packs; Listed weights and dimensions for UPS/Power module and Included battery pack each refer to a single unit
Included battery pack dimensions (height x width x depth / inches)	5.25 x 17.5 x 25
Included battery pack dimensions (height x width x depth / cm)	13.3 x 44.5 x 63.5
Included battery pack weight (lbs)	158.7
Included battery pack weight (kg)	72
UPS Shipping dimensions (height x width x depth / inches)	36 x 40.25 x 51

UPS Shipping dimensions (height x width x depth / cm)	91.4 x 102.2 x 129.5
Shipping weight (lbs)	600
Shipping weight (kg)	272.4
Cooling method	Fans
UPS housing material	Steel
ENVIRONMENTAL	
Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius
Relative Humidity	0 to 95%, non-condensing
AC mode BTU / hr. (full load)	6830
AC economy mode BTU / hr. (full load)	2550
AC mode efficiency rating (100% load)	87%
AC economy mode efficiency rating (100% load)	96%
Operating Elevation (ft.)	0-3000m (0 to 10,000 ft.)
Audible Noise	60 dBA at front side 1 meter
Operating Elevation (m)	0-3000 m
COMMUNICATIONS	
Communications interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
Network monitoring port description	Additional contact closure support with optional RELAYIOCARD and RELAYIOMINI interface cards. RELAYIOMINI installation requires removal of panel containing USB ports
PowerAlert software	Included
Communications cable	USB, DB9 serial and EPO cables included
WatchDog compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications
LINE / BATTERY TRANSFER	
Transfer time	No transfer time (0 ms.) in online, double-conversion mode
Transfer time (economy mode)	8 milliseconds typical power failure response in optional economy mode
Low voltage transfer to battery power (setpoint)	100V

High voltage transfer to battery power (setpoint)	300V
SPECIAL FEATURES	
Cold Start (startup in battery mode during a power failure)	Cold-start operation supported
Economy mode operation	Optional economy mode enables high efficiency bypass operation with a maximum output voltage variation of +/-10%. Double conversion mode is automatically restored as mains voltage varies beyond +/-10% with less than 1 millisecond transfer time between modes
High availability UPS features	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries
Green & high efficiency features	High efficiency economy mode operation; Support for daily startup and shutoff; Schedulable daily hours of economy mode operation
CERTIFICATIONS	
UPS Certifications	Tested to UL1778 (USA); Tested to CSA (Canada); CE; Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances)
UPS Certification details	IEC 61000-4-5 1995 B Surge Immunity
WARRANTY	
Product Warranty Period (Worldwide)	2-year limited warranty

Related Items

Optional Products

Related Model	Description	Qty.
WEXT3-SU16-20K	3-Year Warranty (1-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
WEXT5-SU16-20K	5-Year Warranty (3-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
SNMPWEBCARD	For remote monitoring and control via SNMP, Web, or Telnet.	1
RELAYIOCARD	Programmable Relay I/O Card	1
RELAYIOMINI	3 Relay I/O Mini-module	1
MODBUSCARD	For remote monitoring and control via MODBUS protocol	1
2-9USTAND	Enables Tower Placement of Rackmount UPS Systems	1
2POSTRMKITHD	Enables 2-Post Rackmount Installation of 3U and Larger UPS, Transformer and Battery Pack Components	1
BP240V10RT3U	External Battery Pack and Cable. 3U, Expandable, Black 3-Point Connector	1
BP240V557C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
BP240V787C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
BP240V1037C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
BP240V1407C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
SU20KXFMRT4U	18kVA / 18kW Step-down Isolation Transformer - Converts 208 or 240V UPS, utility or generator power to 120V	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at http://www.tripplite.com/sku/SU20KRTHW.

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